

ENVIRONMENTAL Fact Sheet



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Impacts of Motorized Craft on New Hampshire's Waterbodies

In recent years the number and usage of motorized boats has dramatically increased on the state's lakes, ponds, and rivers. Currently, over 93,000 motorized crafts are registered in New Hampshire.

Popular recreational motor boating activities include fishing, water skiing, tubing, and pleasure cruising. If done carelessly, motor boating is not only a safety hazard, but can also negatively impact water quality, disrupt wildlife, and interfere with native plant and animal life.

Various state agencies work together to ensure safe use, protection, and management of New Hampshire's waters. Boaters can do their part by being aware of potential water quality impacts that could result from the careless use of motorized craft and minimizing these activities.



Environmental Impacts from Motorized Craft

Chemical Impacts

Boat maintenance, if done without caution, has the potential to contribute chemical pollutants such as solvents, paints, or oils, to the state's surface waters. In addition, many solutions for cleaning boats contain chlorine, ammonia and phosphates, or other chemicals that could impact fish and plankton growth. Oil spills from motors or at refueling stations contain hydrocarbons that have the potential to contaminate bottom sediments.

Physical and Biological Impacts

Motor boats and motor-boating activities create waves that have sufficient energy to cause shoreline erosion. The waves generated from boat wakes can be around a foot high, sometimes more, and, if too close to shore, can contribute to slumping banks and loss of shoreline vegetation. Additionally, re-suspension of bottom sediments can occur from even small motor boats (the table to the right shows the depth of influence of various popular horsepower engines). Increases in suspended sediment in waterbodies (also known as turbidity), can result in impacts to aquatic systems. Turbidity can cause lakes, ponds, and rivers to appear darker by allowing less light to penetrate into the water column, thereby stunting submerged plant growth. In turn, this may result in reduced habitat for aquatic life or interfere with their feeding capabilities. Further, boats can destroy habitat for aquatic animals directly by uprooting and cutting up aquatic plants especially in shallow areas where motors extend down near the plant growth. The cutting of plants can also lead to the spread of exotic and

Horsepower	Depth Impacted
10	6 ft
50	15 ft
100	18 ft

invasive species creating fragments that can move on to harm other areas of the same waterbody or that can tag-along on transient recreational gear and are then transferred to a new waterbody .

Sediments that end up in the water column from shoreline erosion or bottom re-suspension can bring with them nutrients, including phosphorus, that contributes to increased plant and algal growth. Excessive water column turbidity can clog the gills of fish and insects in the water, making it harder for them to take up oxygen.

Taken together, the factors outlined above can contribute to negative ecological impacts on the diversity and structure of aquatic life and interfere with the recreational opportunities that our surface waters provide, ultimately reducing the functional values of aquatic systems.



Existing Operational Rules and Regulations

The Department of Safety, Marine Patrol, is responsible for establishing and enforcing regulations that pertain to safe recreational boating activities, ensuring the safety of other water-users, and the protection of environmental resources. A number of reasonable rules and guidelines have been established and can be found online at <http://www.boat-ed.com/newhampshire/>.

Additionally, some waterbodies have special restrictions in place to protect the resource and/or public safety, including bans on motorized boating or gas-powered engines, horsepower restrictions, and/or posted speed limits. For more details on specific waterbody restrictions call the New Hampshire Marine Patrol at 1-877-642-9700 or visit: <http://www.nh.gov/safety/divisions/nhsp/fob/marine-patrol/index.html>.

Minimize Your Impact

There are a number of ways to minimize your impact as an owner/operator of a motorized craft. Some recommendations are outlined below.

- Follow manufacturer's guidelines for fuel type and filling of tank, as well as engine care.
- Don't wash your boat on the water, remove it and trailer it to a proper car wash facility.
- Use four stroke engines or newer direct-injection two-stroke engines as they are cleaner because they burn fuel more efficiently and conservatively.
- Follow "NO WAKE" rules and guidelines.
- Respect "safe passage" guidelines regarding speed and distance.
- Avoid boating in shallow near-shore areas and marshy areas, as they are more at risk for impacts resulting from motorized boating activities.
- Do not to run the propeller or skeg against or along the bottom substrates.
- Keep noise levels to a minimum at appropriate times of the day.
- Maintain an appropriate speed for the depth of waterbody and other recreational activities taking place within your vicinity.
- Avoid traveling through densely vegetated areas.
- Do not power load your boat onto your trailer.
- *Clean, Drain, and Dry Your Boat* before going to a new waterbody, to prevent the spread of invasive species.